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Gwenaël ROUDAUT

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DEPARTEMENT D'ECONOMIE
Route de Saclay
91128 PALAISEAU CEDEX
(33) 1 69333033
http://www.portail.polytechnique.edu/economie
mariame.seydi@polytechnique.edu

Gender Quota inside the Boardroom: Female Directors as New Key Players? *

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Abstract

This paper examines whether women's situation within French boards has improved following the adoption of a board-level gender quota in 2011. To do so, we focus on the individual role of female directors as proxied by their fees. Our sample includes the listed companies belonging to the SBF120 index over the 2006-2014 period. We first show that the quota has succeeded in opening the doors of boardrooms to new, unseasoned female directors (not present on the director labor market before the regulation). These unseasoned female directors have distinctive characteristics (in terms of independence, experience, age, nationality, etc.) as compared to other board members. More importantly, we show that women, whether unseasoned or seasoned, experience an inner glass ceiling, with "positional" gender segregation within French boards. In particular, companies have failed so far to open the access of the most important board committees (namely monitoring committees: audit, compensation and nomination) to women. It results in a within-firm gender fees gap of 5%. Overall, the quota has rather amplified this segregation process, with an increase in the average within-firm gender fees gap.

Key words: board, committees, gender quota, segregation, director fees

JEL codes: J16, J31, G34

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†LADYSS, University Paris Diderot

‡Corresponding Author: Department of Economics, Ecole Polytechnique, Route de Saclay 91120 Palaiseau Cedex France, email: gwenael.roudaut@polytechnique.edu

1 Introduction

Representing almost half of the workforce in Europe, women are still under-represented in corporate boards. In 2014, only 20% of directorships on average were held by female directors in the largest European companies, with an important heterogeneity across countries (Adams et al., 2015). In recent years, board diversity has therefore come to the front in public policy: the EU Commission and Parliament agreed to reach a target of 40% of female directors by 2020. Two competing approaches exist (see Appendix 6.1). Voluntary approach through codes of governance has been supported by the UK, Sweden, Denmark, Finland, Austria, Poland, Luxemburg and half a dozen countries in the rest of the world. Following the Norwegian path-breaking move, some countries have adopted a legislative approach, implementing gender quotas. This is the case of 14 countries including France, The Netherlands, Spain, Italy, Germany and Belgium with targets between 30% and 50%. Evaluating the relative effectiveness of the two approaches is then a priority and has prompted a fierce debate in economics and finance (Adams et al., 2015; Terjesen et al., 2015).

Improving board-level gender diversity is part of a global agenda promoting gender equality in our society. But it is also commonly perceived as a way to increase firm accountability and to improve performance through better corporate governance. First, women are less connected to the old boy networks that often characterized boards in listed companies (Miller and Del Carmen Triana, 2009; Nielsen and Huse, 2010; Smith, 2014). Second, female directors appear to have distinct values and perspectives as compared to male directors (Adams and Funk, 2012), bringing new resources into the boardroom. A positive relationship between board diversity, corporate governance quality and firm performance is therefore expected. If one considers that market imperfections (such as taste-based or statistical discrimination) impeding board access to women are likely to be resilient, then a legislative approach might be necessary.

However, the Norwegian experience (the first completed implementation of a gender quota in 2008) provided very mixed results. Ahern and Dittmar (2012) and Matsa and Miller (2013) report in particular a negative relationship between gender diversity and firm performance. It suggests that the link between diversity and performance is not straightforward, especially in the case of quotas. Interestingly, it is somewhat reminiscent of the debate on director independence, with a first generation of studies examining the relation between the share of independent board members and firm performance - with no conclusive empirical results (Hermalin and Weisbach, 1998; Bhagat and Black, 2001) - and a second generation investigating the precise characteristics and role of independent directors inside the boardroom (Adams and Ferreira, 2007; Baldenius et al., 2014; Masulis and Mobbs, 2014). In fact, reaping the potential benefits of gender diversity raises, just like with independence, two distinct issues.

The first issue relates to director characteristics: clearly, the incidence of a quota - in terms of corporate governance - depends on the attributes of the pool of female candidates. There are reasons to expect this pool to differ from the pool of male directors, in terms of age, experience, expertise, etc.: while companies may use female appointments to reconsider their nomination policy and practices, it is also very likely that they face a supply shortage of female candidates with traditional, standard characteristics. As argued by Adams and Kirchmaier (2015), this supply shortage regarding boards is to some extent related to the existence of barriers to female leadership in the labor market. Incidentally, this may undermine the effectiveness of a quota as a way to improve corporate governance.

The second issue relates to roles' allocation within boards. So far, it has received very little interest in the literature on gender quotas. Not every director is equal: there exist some key positions inside the boardroom, associated in particular to committee memberships and committee chairings. Individuals holding them have a greater ability to shape corporate decisions. Importantly, the distribution of these positions across board members is very likely to shape the impact of a board quota on corporate governance and firm performance: for instance, appointing women to comply with the law, but placing them in non-strategic roles (for example without any committee membership) may reduce the value of female directors for firms and may jeopardize corporate governance improvements.

Assessing the effectiveness of gender quotas requires answering the two following questions. What are the main characteristics of female directors appointed to comply with the law? And what role do they play within the boardroom? This article proposes to answer these two questions, using the French context as a quasi-natural experiment framework. In January 2011, the Parliament voted the so-called "Zimmerman-Copé" law, requiring each gender to represent at least 40% of directors in 2017 with an intermediate threshold of 20% in 2014.[1] Any firm with more than 500 employees and 50 million € of profit during three following years has to comply with the law.

Our analysis is based on the sample of firms belonging to the SBF120 index in 2011 (i.e. the 120 largest listed firms in 2011 by market capitalization and trading volume on Euronext NYSE-Paris). They are all concerned by the gender quota. We bring two main findings.

Starting in 2010 (firms have anticipated the success of the political debate), we observe an impressive, steady growth in the share of female directors. This growth has been to a very large extent fueled by the appointment of new female directors (unseasoned), who had not already been in a board of a SBF120 company before 2010. The French quota therefore succeeded in opening the pool of directors to brand new candidates. We did not report a significant multiplication of directorships for incumbent (seasoned) female directors - a potential danger of the legislative approach (Adams and Kirchmaier, 2015). Regarding individual characteristics, we show that these unseasoned female directors present distinctive attributes. They are much more independent and less industry-expert than unseasoned male directors. They are more often foreigners and have less financial expertise, as compared to seasoned directors. Also, they are younger than their male counterparts when entering the director labor market. We did not observe such differences in individual characteristics between female and male seasoned board members, except the age of entry. Besides, we observe that the quota has induced a surge in the tenure gap between male and female board members, suggesting that unseasoned female directors have replaced males who were relatively newcomers (rather than senior directors).

Regarding director role, we measure it through individual fees (that is board member compensation). We show that female directors support an average within-firm fee discount of 5% over the whole period. This discount is mainly borne by unseasoned female directors. Performing a Oaxaca-Blinder decomposition shows that the gender fees gap is driven, to some extent, by the peculiar characteristics of female directors. But it also reflects the difficulty they have to enter monitoring committees (with

[1] The regulation goes beyond the "comply or explain" principle: failure to comply with these schedules will result in voided appointments and suspended remuneration for directors.

larger payoffs than advising committees), controlling for their individual observable attributes. Our empirical results are therefore suggestive of a second, inner glass ceiling: while the quota has allowed women to break the first glass ceiling (entering the boardroom), it has failed to suppress "positional" gender segregation within French boards. Ultimately, the French quota has even resulted in an *increase* in the gender fees gap (from 3.5% on average in 2006-2009 to 5.7% in 2010-2014).

This paper makes the following contributions.

First, the paper complements the literature on the relationship between gender diversity and firm performance by providing fresh evidence on the dynamics of firm compliance to a quota. Lot of attention has been paid to the gender diversity-performance nexus, especially under quota, without reaching any consensus (Smith, 2014). Even a natural experiment such as the Norwegian regulation does not provide the perfect, appropriate empirical framework to correctly estimate the impact of diversity on performance: some confounding effects, such as other concomitant regulations, early compliers' effect and correlated board changes may hide the true gender impact (Ferreira, 2015). Hillman (2015) then suggests going beyond the effect of gender diversity on performance by investigating how firms comply with either soft or hard regulation, how female directors are selected and how it impacts board organization and functioning. Our paper does so, for the French quota. France is a leading OECD economy, whose national stock exchange is 7 to 8 time larger than the Norwegian one (in terms of stock market capitalization). It therefore constitutes a unique experience to observe a gender quota in motion. Our results confirm some arguments or observations previously made on quotas: it forces companies to select board members in a particular pool, which present distinctive characteristics (Adams and Kirchmaier, 2015; Bohren and Staubo, 2015). In particular, like in Norway, appointing new female directors often means appointing independent board members - something that was not necessarily on the agenda of listed companies. Our results also bring new evidence on the role played inside the boardroom by female directors following the quota - something that has not been covered so far in the literature to the best of our knowledge: we report evidence of a new, inner, glass ceiling, preventing female directors to be the new key players inside French boards. At least on the short run, this may call into question the efficiency of the French quota.

Second, this paper brings new evidence on the determinant of director fees and on the potential existence of gender discrimination inside the boardroom. Director compensation has received limited attention so far, as compared to CEO remuneration; the same is true for gender discrimination among directors, as compared to gender discrimination on the labor market (whatever the occupation level). These are, however, crucial questions - the lack of comprehensive information on director fees probably explaining the relative silence of the literature so far. Like wages, director fees constitute a global measure of the services provided by individuals (at the very top of listed companies). As such, we contend that understanding the determinant of these fees and raising the questions of gender discrimination are of interest, from a corporate governance point of view but also from a social, gender equality, perspective. The studies by Gregory-Smith et al. (2014) and Goh and Gupta (2015) are the most closely related to ours. They highlight a gender fees gap among directors in Great-Britain, between 5 and 8% - that they interpret as pure discrimination against women. We provide a rather similar estimation for French female directors but give an alternative explanation: the gap is entirely explained by the characteristics and positions of female directors. This suggests that women do not

have attendance problems (Adams and Ferreira, 2009), and that there is no pure discrimination (consisting in paying differently men and women put in exactly the same position and providing the same services). Rather, our results are indicative of a gender segregation, with key committees being hardly accessible for females entering the market with the quota.

The rest of this paper is structured as follows. Section 2 presents a short literature review on gender diversity and quota, and on director fees. Section 3 provides descriptive statistics on the change in the pool of directors and board characteristics during the period. Section 4 analyzes the determinants of director fees and the gender fees gap. Section 5 concludes.

2 Literature review

2.1 Diversity and governance

The importance of board composition in explaining board effectiveness, corporate governance quality and ultimately firm performance is now a standard assumption in the literature. Board diversity, then, is expected to have several effects (Carter et al., 2003)[2].

From a dependence theory perspective (Salancik and Pfeffer, 1978), female directors are often considered as bringing new resources and competences inside the boardroom, as well as fresh perspectives on strategic issues (Miller and Del Carmen Triana, 2009; Nielsen and Huse, 2010; Hillman, 2015). A first reason is simply that they do not belong to traditional "old boys" networks that are so pervasive in corporate governance matter (Smith, 2014). Also, it is often argued that females have different preferences, risk attitudes and values than males - even at the board level. Adams et al. (2011) shows that female directors are generally more stakeholder oriented than male directors. In the same vein, Adams and Funk (2012) provide evidence that women on board care more about benevolence and universalism, and less about power and achievement. In addition, they are less security- and tradition-oriented than their male counterparts. These observations suggest that increasing board diversity should lead to substantial changes in board functioning and decisions.

From an agency theory perspective (Jensen and Meckling, 1976), it has been suggested that diversity enhances the monitoring ability of the board and firm performance. On the one hand, female directors are often more independent, outside traditional social networks. Consistent with this observation, Adams and Ferreira (2009) show that women are more likely to be appointed in monitoring committees (in the S&P500). The Turkish case also exhibits a positive correlation between female representation and board monitoring (Ararat et al., 2015). On the other hand, female directors have a better attendance record, at least on U.S. data (Adams and Ferreira, 2009) and this may have a positive peer effect on male directors' attendance.

In sum, theory and empirical analysis both make the argument that increasing the fraction of women on board should not be neutral regarding corporate governance - with an overall improvement in governance quality. However, the existence of a glass-ceiling against women regarding board access is unquestionable, in all OECD countries (Terjesen et al., 2009; Ferreira, 2010). Like classic labor market

[2]A complete literature review on corporate governance has been done by Adams et al. (2010), and on diversity by Terjesen et al. (2009).

discrimination, they are persistent inefficiencies that market forces fail to correct over a reasonable period (Becker, 1957). A quota is expected to fix the problem. In the French case, the first empirical evidence for the early compliers (belonging to the 40 largest listed companies) suggests that the gender quota may have improved corporate governance: using panel and frontier regressions, Sabatier (2015) reports a positive relationship between gender diversity and firm performance (ROA, ROE and Tobin's Q) between 2008 and 2012.

2.2 The effects of a gender quota

So far, the vast majority of the literature has focused on the implementation of the gender quota in Norway - fully enforceable since 2008. Two studies have investigated the relationship between board diversity and firm performance in detail - stressing the detrimental effects of the regulation. Ahern and Dittmar (2012) use the heterogeneity of pre-quota female representation inside the boardroom to instrument the exogenous shock that firms experiment. They show that Tobin's Q dropped off following the quota. Matsa and Miller (2013) use a triple difference-in-difference strategy across Nordic countries and across listed (affected by the quota) and non-listed (unaffected by the quota) companies. They report evidence that treated firms have been less likely to undertake workforce reductions, more likely to have increased their labor costs and employment levels - with negative effects on profitability. They also show that the effect has been larger for firms with no female directors before the quota. Both studies therefore support the idea that the new regulation has come to a cost, making firms deviate from their optimal board composition from a shareholder value perspective. More precisely, two costs related with a quota are usually identified.

First, at a broad level, economists are often skeptic regarding the efficiency of a regulatory approach, especially in corporate governance. Such an approach places new constraints on companies, and does not take into account firm heterogeneity in terms of business models and corporate governance needs (Adams et al., 2010). Second, the implementation of a quota necessarily forces firms to appoint directors from a potential pool that may substantially differ from their usual, male-dominated pool (Hillman et al., 2002; Singh et al., 2008). It is possible, for instance, that the persistence of a glass-ceiling effect has impeded the will of many women to become directors, despite their intrinsic ability. The resulting narrowness of female directors' pool then acts as a short-run obstacle against the improvement of corporate governance following a gender quota. In addition, it might lead to a concentration of power among few female directors presenting the standard, expected characteristics. Amusingly, it might even generate new 'spinsters' (old women) networks - the quota was intended to destroy[3]. Over the long run however the quota should act as an incentive for women to invest the business.

In the Norwegian case, there are evidences that the characteristics of newly appointed women differed substantially from incumbent directors. Ahern and Dittmar (2012) show in particular that new female directors were less likely to have an executive experience, especially a CEO experience, and were younger. But they also report that they were more educated[4]. A striking result concerns indepen-

[3]Seierstad and Opsahl (2011) have provided evidence of such an effect in the Norwegian case, with the creation of a small elite of female directors. In terms of corporate governance, the literature on busy directors has highlighted that multi-directorship may destroy shareholder value (Cashman et al., 2012; Falato et al., 2014; Masulis and Mobbs, 2014)

[4]In the French case, the first female directors appointed after the quota (2010, 2011 and 2012) appears to be similar to males in terms of education and networks (Allemand and Brullebaut, 2014) but less business experts or CEOs (Dang

dence (which is the most common criteria to evaluate board ability to protect shareholders' interests). Bohren and Staubo (2015) report that the fraction of independent directors jumped from 40% to 67% following the implementation of the quota. But they show that the stronger the increase in independence, the bigger the economic losses after the quota. This result is consistent with several empirical (Faleye et al., 2011) or theoretical (Adams and Ferreira, 2007) studies pointing out the negative effect of excessive monitoring (associated with a too high fraction of independent board members).[5] In the French case, Rosenblum and Roithmayr (2015) argue, based on a series of interviews, that board decision-making process has been changed following the quota, most notably because newly appointed female directors are more likely to be outsiders.

While this question of new female directors' characteristics has retained much of the attention in the literature, it is worth noting that gender quota effectiveness also depends on the assignment of of committees across board members. Committees are sub-structures comprised of few board members, in charge of specific functions (typically audit, CEO compensation design, CEO nomination, strategy and risk policy). Belonging to one of these committees is then highly strategic to influence board decisions and firm performance (see e.g., Reeb and Upadhyay, 2010). If companies choose to place new female directors in non-strategic positions inside the boardroom, then there is not much benefits to expect from a gender quota. To the best of our knowledge, there is no evidence regarding positions' allocation across gender following a quota. Aside from a quota, there are some disparate evidences on the position occupied by women in committees. Wearing and Wearing (2004) show on British data that female directors are less likely to reach the chair position inside committees, while Adams and Ferreira (2009) report that women are more likely to join monitoring committees (audit, compensation or nomination).

From a methodological point of view, it is worth noting that estimating a clear relation between diversity and performance using a quota is not a simple task. Ferreira (2015) convincingly argues that the design of the Norway experiment does not provide a clear identification strategy to estimate the causal link from diversity to performance. First, the choice of the control group is particularly problematic: treated and untreated groups are endogenously determined when the quota applies (as some unobservables necessarily explain that some firms are unlisted or have no female directors, for instance). Second, some confounding effects may affect the result, such as the increase in the fraction of independent board members (Ferreira, 2010; Bohren and Staubo, 2014). Unfortunately, the French context does not provide a better framework to analyze this relationship. However, it allows observing in detail - for a comprehensive sample of large listed companies - the way firms have complied so far with the regulation, in terms of director appointment and position allocation in boards. More importantly, we are able to measure individual directors' role within board. To do so, we need to overcome heterogeneity concerns that play at two distinct levels. At the director level, the literature in economics, finance and management has identified a multiplicity of individual characteristics that all impact on the way individuals perform their duties. At the position level, there is a multiplicity of committees, some common to nearly all companies (the audit one), some highly firm-specific. Accordingly, it is not a simple task to perform an overall assessment of the value of a particular director - associated

et al., 2014)

[5]Intense monitoring may in particular refrain corporate executives from sharing firm-specific information with independent board members, to the detriment of the board advising function and to some extent to the board monitoring function. Nygaard (2011) finds some supportive arguments on Norway.

by definition with a bundle of characteristics and positions - comparable across individuals. We will argue that director fees allow to overcome this problem. In this framework, we interpret substantial changes over time in within-firm fees distribution as an indication of a change in the relative roles played by the different directors - and therefore as a sign of a modification in board overall functioning.

2.3 The determinants of director fees

Several papers have examined the relation between director compensation and firm-level or board-level characteristics, on U.S. data. For instance, Ryan and Wiggins (2004) have looked at the relationship between fees and board independence, controlling for other firm characteristics. Brick et al. (2006) have modeled director fees as a function of firm characteristics, CEO characteristics and governance factors (such as the share of internal directors). In the same vein, Linn and Park (2005) have studied the relations between investment opportunities and the level of board members' compensation. The common point of all these papers is that they are not interested in differences among directors (for instance gender inequality), as we do. Accordingly, they do not control for any individual director attributes.

There has been a recent interest for the individual determinants of director fees, opening the way to an investigation of inequalities across groups of board members. For instance, Mallin et al. (2015) provides some evidence on UK and Italian data that independent directors are paid more than affiliated ones, especially in the UK. This study suggests that the status is an important driver of individual fees. Goh and Gupta (2015) also show on a British sample that being independent is related to a +11% fees premium; tenure, network and age are also positively related to compensation.

Finally, few papers have examined the gender gap. Pucheta-Martinez and Bel-Oms (2015) report on a sample of Spanish firms the existence a gender gap, that depends on two elements: (individual) seniority and the presence of female directors in the compensation committees or in a strategic position. Taking into account firm heterogeneity and some individual characteristics such as compensation committee membership and chair, age and tenure, Gregory-Smith et al. (2014) also show that female non-executive directors face a fees gap of around 8%. Goh and Gupta (2015) provide convergent results. Female directors experiment a gender gap of 5% within firm controlling for individual characteristics and some positions (compensation committees). Those results suggest either a discrimination against female directors or a problem of attendance which directly reduces director fees.

The application of a quota may reduce this gender gap in case of success, or exacerbate it in case of some inefficiency (such as inner glass-ceiling). It remains an empirical question.

3 Who is entering the boardroom?

Before 2010, the average share of female directors was around 9% for SBF120 companies. In 2010, this share significantly increased, suggesting that firms have anticipated the success of the political debate (the legislative regulation had been adopted in January 2011). Since then, the proportion of female directors has steadily grown up. The sample average share of female directors went over 20% in 2012 and 30% in 2014. This section explores the change in the pool of directors following

the implementation of the gender quota. Four types of directors are distinguished depending on the gender (male and female) and the date of entry in the French director labor market (seasoned and unseasoned). Seasoned directors are individuals sitting between 2006 and 2009 in at least one of the SBF120 firms. Unseasoned directors are individuals entering SBF120 companies' boards starting from 2010.

Our firm sample includes the companies belonging to the SBF120 in January 2011 - excluding firms which have not been observable over the whole period[6]. We hand-collected detailed information on directors sitting in any of these companies using (public) annual financial reports, over the 2006-2014 period. Our database contains 115 firms, 2,084 distinct directors and 14,112 director-firm-year observations. We obtain the following information: gender, age of entry in the pool of SBF120 directors, nationality, tenure, past professional experience and educational background, individual annual fees, board sub-committees sitting and chairing and the status (insider, affiliated or independent, following the definition adopted by the AFEP/MEDEF code)[7]. Affiliated directors are related to the firm, as employee representatives, shareholder representatives or individuals with business connections. Independent directors have no relationship with the firm, the manager and the blockholders. We use past or current professional experience to define expertise (see Dass et al., 2014). An individual is defined as a financial expert if she/he has or has had professional experience in the insurance or financial service industry. She/he is defined as an industry-expert if she/he has or has had professional experience in the industry (defined with a one-digit code) of the firm where she/he sits. Table 10 (Appendix 6.2) defines all the variables.

3.1 Seasoned or unseasoned directors?

We first examine the way companies have complied with the quota, so as to meet the quantitative target. Table 1 gives information on the flows of directors (newcomers and leavers) on a yearly basis in the SBF120 firms. Interestingly, the number of appointments per year is rather stable over the period (around 175) and mostly covers the number of leavers. We therefore observe a progressive, regular renewal of French boards. Similar to the Norwegian case (Bohren and Staubo, 2015), there is no drastic increase in board size to reach the quota: the average board size grows up from 12.2 to 12.5 board members between 2009 and 2014. Male directors seem to have been replaced by female directors so as to meet the quota. Without surprise, the gender balance of new appointments has deeply changed. In 2006-2009, we observe that roughly one female was appointed for 10 males (14 women appointed in 2006, against 169 males). This strong imbalance ends in 2010, with 110 males and 65 females among new board members. Since then, the number of female and male directors is rather similar (88 men and 83 women in 2013 for instance).

[6]Except REXEL which has been listed in 2007. We exclude APERAM, EDENRED, EDF-Energie nouvelle, Rhodia, and SILIC.

[7]This definition is used by the Autorité des Marchés Financiers (which supervises the French stock market). AFEP (Association Françaises des Entreprises Privées) and MEDEF (Mouvement des Entreprises de France) are two representative organizations at the national level for private sector. Independence is assumed to be compromised if the director of a company (1) is or has been, within the previous five years, a corporate executive or an employee of that company or of its affiliates, (2) is employed as an executive of another company where any of that company's executives sit on the board, (3) has been the director of the company for more than twelve years, (4) is a representative of a large blockholder (with at least 10% of stock or voting rights), (5) has a significant business relationship with that company or its affiliates (as customer, supplier, banker or auditor), (6) is related by close family ties to an executive director.

Table 1: Directors' appointments and exits over the 2006-2014 period

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Leavers		**179**	**142**	**179**	**138**	**149**	**183**	**177**	**150**	**1297**
Appointments	**183**	**173**	**182**	**178**	**175**	**154**	**185**	**171**	**167**	**1568**
Male	**169**	**154**	**163**	**152**	**110**	**76**	**106**	**88**	**92**	**1110**
Unseasoned	*0*	*0*	*0*	*0*	*80*	*62*	*84*	*59*	*72*	*357*
Seasoned	*169*	*154*	*163*	*152*	*30*	*14*	*22*	*29*	*20*	*753*
Female	**14**	**19**	**19**	**26**	**65**	**78**	**79**	**83**	**75**	**458**
Unseasoned	*0*	*0*	*0*	*0*	*54*	*67*	*68*	*73*	*67*	*329*
Seasoned	*14*	*19*	*19*	*26*	*11*	*11*	*11*	*10*	*8*	*129*

Notes: Leavers (resp. appointments) indicates the number of directorships (couple of firm and director) held by leavers (resp. arrivers) in SBF120 companies (115 firms), by year from 2006 to 2014. Total counts the number of observations over the 2006-2014 period. Unseasoned directors have been appointed in their first SBF120 firms after the quota (2010). Seasoned directors had at least one directorship in SBF120 firms between 2006 and 2009. Lecture: there has been 1568 appointments over the 2006-2014 period, while 1297 directors left their directorship over the same period. For example, in 2010, 175 directors have been appointed in a new directorship and 138 directors left their directorship. Among the appointments, 110 concerned men and 65 women. Regarding men appointments, 80 were unseasoned and 30 seasoned. Among female directors, 54 were unseasoned and 11 seasoned.

Seasoned women represent a minor part of female appointments made after the quota, and a decreasing one. Out of 65 women appointed in 2010, 11 were already in the market before; in 2014, this proportion was even smaller, with only 8 seasoned women among 75 appointed females. Only 36 out 119 seasoned female directors get at least a new board seat after the regulation. In contrast, 288 unseasoned female directors enter the pool of directors after the quota. This evidence indicates that the gender quota has had far-reaching consequences on board functioning and corporate governance, as it primarily induces the entry of new faces inside French boardrooms. Put differently, we do not observe a race between companies to hire the (few) seasoned female directors.

Table 2 presents the average tenure of board members. Before the quota, seasoned male and female directors had similar tenure, around 6.7 years, stable over the sub-period (2006-2009). After the quota, male average tenure increased, up to 8.5 years in 2014. This growth has been driven by the 4 years jump of the male seasoned directors' average tenure, that reached 10.7 years at the end of the period. This evolution suggests that the most experienced male directors kept their seats, while the latest appointed were replaced by (unseasoned) female directors. Women tenure decreased of 2 years, due to the massive entry of these unseasoned female directors. All in all, this is indicative of a dualization process inside the boardroom, between seniors on one side and new comers on the other side - with allegedly different bargaining power. It also suggests that tenure is likely to be an important determinant of the role of directors inside the boardroom - we shall account for in our empirical investigations.

Table 2: Directors' tenure over the period

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Avg Tenure	**6.46**	**6.64**	**6.81**	**6.92**	**7.12**	**7.24**	**7.27**	**7.33**	**7.36**
Male	**6.44**	**6.64**	**6.82**	**6.96**	**7.41**	**7.79**	**8.05**	**8.33**	**8.49**
Seasoned Male					7.81	8.57	9.36	10.04	10.70
Female	**6.64**	**6.57**	**6.67**	**6.52**	**5.10**	**4.45**	**4.35**	**4.41**	**4.60**
Seasoned Female					6.72	7.20	7.65	8.12	8.70
T-test Male-Female	*-0.20*	*0.07*	*0.15*	*0.44*	*2.31****	*3.33****	*3.70****	*3.92****	*3.89****
T-test Seasoned					*1.09****	*1.35****	*1.71****	*1.92****	*2.00****

Notes: Tenure is the number of years that a director holds her directorship. The average tenure is calculated on the annual number of directorships in the SBF120 firms. Seasoned directors had been appointed for the first time between 2006 and 2009 in at least one SBF120 firms. Stars indicate the statistical significance of a t-test (two-sample tests assuming unequal variances). The first t-test compares male and female tenure while the second t-test compares seasoned male and female tenure. Statistical significance at the 1%, 5%, and10% levels is indicated by ***, ** and *.

Table 3: Multi-directorships of directors over the 2006-2014 period

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Number of directorships	**1.31**	**1.31**	**1.32**	**1.31**	**1.31**	**1.28**	**1.28**	**1.29**	**1.26**
Male	**1.31**	**1.32**	**1.33**	**1.32**	**1.32**	**1.30**	**1.29**	**1.28**	**1.26**
Seasoned Male					1.34	1.33	1.34	1.35	1.34
Female	**1.27**	**1.23**	**1.23**	**1.20**	**1.23**	**1.22**	**1.26**	**1.30**	**1.26**
Seasoned Female					1.29	1.36	1.49	1.60	1.60
t-test Male-female	*0.04*	*0.09*	*0.10*	*0.12**	*0.09**	*0.08**	*0.03*	*-0.01*	*0.00*
t-test seasoned					*0.06*	*-0.03*	*-0.15****	*-0.25****	*-0.27****

Notes: Multi-directorship is the number of boards that a director holds in the SBF120 index in a given year. The average multi-directorship is calculated on the annual number of directorships in the SBF120 firms. Seasoned directors had been appointed for the first time between 2006 and 2009 in at least one SBF120 firms. Stars indicate the statistical significance of a t-test (two-sample tests assuming unequal variances). The first t-test compares male and female multi-directorship while the second t-test compares seasoned male and female multi-directorship. Statistical significance at the 1%, 5%, and10% levels is indicated by ***, ** and *.

Multi-directorship (Table 3) is determinant regarding the time devoted to the board and its committees (see Jiraporn et al., 2009; Masulis and Mobbs, 2014) and busy directors may then reveal poor corporate governance quality (Fich and Shivdasani, 2006; Cashman et al., 2012; Falato et al., 2014). Multi-directorship is therefore an important indicator to understand how firms have complied with the law. Regarding the number of seats, there is a no significant difference across gender before and after the gender quota. But seasoned women have more seats on average than seasoned men at the end of the period (1.6 against 1.34). It suggests that companies needed to find somehow urgently female directors to comply with the quota, and have to some extent considered seasoned women - even if the effect is quite small. It is also important to note that the intensity of multi-directorship

for unseasoned females is smaller than for (male or female) seasoned directors. In sum, firms seem to have looked for specific talents rather than chasing the same generic candidates - something that would have undermined the effectiveness of the gender quota (Adams and Kirchmaier, 2015). Multi-directorship does not seem to have been the most problematic issue regarding the French gender quota.

3.2 The pool of directors

We now examine the change in the pool of directors in the SBF120 between 2009 (before the regulation) and 2014 (when the threshold of 20% had to be reached by firms). We focus on characteristics that are likely to impact on corporate governance and are therefore disclosed in annual financial reports. In 2009, there were 1,096 directors and 1,176 in 2014. Table 4 provides information on the main characteristics of unseasoned female directors (275 distinct individuals in 2014), as compared to the other three categories, namely unseasoned males (285), seasoned females (109 in 2009) and seasoned males (by far the largest, with 987 distinct persons). Only time- and individual-invariant characteristics are considered for the moment: gender, age of entry in the pool, nationality, tenure, educational background, and financial expertise.

As suggested by Masulis et al. (2012), foreign directors may have specific costs and benefits for corporate governance quality. They are associated with better mergers and acquisitions abroad. But they are also associated with a lower sensitivity of CEO turnover to performance and with a lower attendance. We observe in Table 4 that the share of foreigners among unseasoned female directors is high, at 37%, including 21% coming from European Union member States and 11% from North America. This proportion is significantly higher than what we observe for all other categories of directors. As such, this difference suggests the existence of a supply shortage of native female directors. By contrast, seasoned female directors are less often foreigner than seasoned male directors.

Regarding social connections, Kramarz and Thesmar (2013) and Nguyen (2012) highlight that French educational networks play a strategic role in boards (Appendix 6.3) and may be detrimental to corporate decisions. We may think that as outsiders, unseasoned female directors are less likely to be part of these networks. However, networks may also help to secure the appointment of talented candidates in a short period of time, as it conveyed private information on individuals. The only meaningful large difference between male and female directors concerns the Ecole Polytechnique network (the leading French engineer school): only 6% of unseasoned female directors graduated from the Ecole Polytechnique, similar to seasoned females. In contrast, the share of Ecole Polytechnique graduates is at least twice larger for males (whether seasoned or unseasoned). This is hardly a surprise, insofar as the under-representation of women in this prestigious engineer school is well documented (Chauvel, 2004). Clearly, we have here a pure supply shortage effect. For the other Grandes Ecoles (l'ENA, the school for high civil servants; HEC-ESSEC-ESCP, the leading business schools; and IEP, the leading school of political science), there is no statistical difference between men and women.

The literature on financial expertise (see for example Defond et al., 2005; Burak Guner et al., 2008; Reeb and Zhao, 2013) shows that such expertise improves board effectiveness and the quality of corporate disclosure. We observe a significant shortage of financial expert unseasoned female directors, as compared to seasoned males (43% against 57%). While non-significant at conventional level, the

Table 4: Characteristics of unseasoned and seasoned directors, by gender

	Unseasoned		Seasoned		Difference (t-test)			
	Female	Male	Female	Male				
Variable	(1)	(2)	(3)	(4)	(1)-(2)	(1)-(3)	(1)-(4)	(3)-(4)
Nationality								
Foreigner	0.37	0.32	0.18	0.25	0.06*	0.19***	0.12***	-0.07*
					(1.37)	(3.67)	(3.98)	(-1.61)
British	0.05	0.01	0.03	0.04	0.04***	0.02	0.01	-0.01
					(2.96)	(0.87)	(0.81)	(-0.48)
German, Belgian	0.06	0.07	0.02	0.05	-0.01	0.04**	0.01	-0.04*
					(-0.40)	(1.77)	(0.45)	(-1.64)
Spain, Italy	0.05	0.05	0.02	0.05	0.01	0.04*	0.00	-0.03*
					(0.48)	(1.58)	(0.19)	(-1.54)
EU	0.05	0.06	0.03	0.05	-0.01	0.02	0.00	-0.02
					(-0.62)	(1.00)	(0.15)	(-0.99)
North American	0.11	0.08	0.08	0.04	0.02	0.02	0.06***	0.04**
					(1.00)	(0.68)	(4.12)	(1.95)
Other Nationalities	0.07	0.05	0.03	0.02	0.02	0.04*	0.05***	0.00
					(0.81)	(1.58)	(3.76)	(0.27)
Education								
Grande Ecole	0.29	0.32	0.30	0.41	-0.02	-0.01	-0.11***	-0.11**
					(-0.63)	(-0.16)	(-3.44)	(-2.14)
Ecole Polytechnique, Mines	0.06	0.12	0.06	0.14	-0.06***	0.00	-0.08***	-0.08***
					(-2.37)	(0.06)	(-3.37)	(-2.11)
ENA	0.08	0.11	0.08	0.12	-0.03	-0.00	-0.04**	-0.04
					(-1.25)	(-0.16)	(-1.84)	(-0.99)
HEC, ESSEC, ESCP	0.11	0.14	0.18	0.15	-0.03	-0.07**	-0.04	0.04
					(-1.09)	(-1.76)	(-1.43)	(0.95)
IEP	0.17	0.12	0.15	0.18	0.05	0.02	-0.01	-0.03
					(1.43)	(0.43)	(-0.21)	(-0.61)
Other characteristics								
Financial Expertise	0.43	0.42	0.50	0.57	0.01	-0.06	-0.13***	-0.07
					(0.19)	(-1.11)	(-3.95)	(-1.42)
Age of Entry	49.66	52.37	46.35	51.22	-2.71***	3.31***	-1.56***	-4.87***
					(-3.789	(3.18)	(-2.40)	(-4.81)
Number of directors	275	285	109	987				

Notes: Averages of individual characteristics of directors in SBF120 companies in 2009 and 2014. Unseasoned refers to directors who arrived in the pool of directors from 2010 to 2014. Seasoned are directors who were in the pool before 2010. Observations are persons. Foreigner is a non-French director. Ecole Polytechnique is the leading French engineer school. ENA (Ecole Nationale d'Administration) is a specific school for high civil servant. HEC, ESSEC and ESCP are the three leading business school in France. IEP is a leading school in political science. Financial Expertise is a dummy equal to 1 if the director has a professional experience in finance. Age of entry is the age of the director when she was appointed for the first time in one of the SBF120 firms. Statistical significance is reported by t-statistics in parentheses from two-sample tests assuming unequal variances. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, ** and *.

difference with seasoned females is still important (see (1)-(3)). In contrast, there is no difference across gender among unseasoned directors: this observation suggests that the lack in financial expertise among unseasoned female directors is induced by firms' choice, rather than by a supply-shortage of candidates holding this attribute. At the board level, on average, the share of financial experts drops from 59% to 52% between 2009 and 2014.

Finally, unseasoned female directors are significantly younger than both unseasoned and seasoned male directors when entering the pool (less than 50 years old, against 52.4 and 51.2). Interestingly, seasoned female directors entered the pool of French directors at a much younger age that all other categories, at 46.4 years on average. This observation indicates that the females who have been appointed before the quota had peculiar characteristics, related to the age and explaining that they have been able to break the glass ceiling in the "dark age". Simply put, they may be highly dynamic individuals, with trail-blazing carriers that have put them at the very top of large companies.

3.3 The pool of directorships

We end up our investigation with two important "board-related" (rather than intrinsic) characteristics: independence and industry-specific expertise. Both characteristics are usually considered as criteria of good corporate governance quality (Adams et al., 2010; Faleye et al., 2013), in relation to the monitoring function for the former and to the advising function for the latter.

Table 5: Board related attributes of unseasoned and seasoned directors, by gender

	Unseasoned		Seasoned		Difference (t-test)			
	Female	Male	Female	Male				
Variable	(1)	(2)	(3)	(4)	(1)-(2)	(1)-(3)	(1)-(4)	(3)-(4)
Independent	0.65	0.33	0.51	0.47	0.32***	0.14***	0.18***	0.04
					(7.91)	(3.02)	(5.55)	(1.03)
Industry Expert	0.43	0.67	0.48	0.57	-0.24***	-0.05	-0.14***	-0.09***
					(-5.90)	(-1.15)	(-4.32)	(-2.21)

Notes: Averages of director status in SBF120 companies (%). Unseasoned refers to directors who arrive in the pool of directors from 2010 to 2014. Seasoned are directors who were in the pool before 2010. Observations are directorships (person-firm-years). Statistical significance is reported by t-statistics in parentheses from two-sample tests assuming unequal variances. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, ** and *.

Table 5 shows that regarding independence, there is no statistical difference between seasoned women and men. In contrast, there is a very large, significant difference in the proportion of independent directorships between unseasoned women and unseasoned men: directorships held by women arriving since 2010 are on average 65% independent, against 33% for men. Regarding industry expertise, we observe the opposite pattern. It is not a surprise, as the definition of independence proposed by corporate governance codes in most jurisdictions does not favor industry-specific or firm-specific expertise. Table 5 shows that only 43% of unseasoned female directorships bring industry-expertise - against 67% for unseasoned male directorships.

Summing up, we have provided evidence that unseasoned female directors, massively appointed to comply with the gender quota, substantially differ from other group of directors, in terms of individual and board-related characteristics. In particular, we have reported that unseasoned female directors are more often foreigners, are younger, and are more independent and less industry-expert than men (seasoned or unseasoned). The difference between seasoned female and male directors is not so important, except for the age. Overall, female directors are, to a large extent, independent - much more independent than male directors - and less industry expert. They are therefore *a priori* well-suited to endorse a monitoring role (rather than an advising role) (Adams and Ferreira, 2009; Bohren and Staubo, 2015).

4 What role for women inside the boardroom?

Our objective is to evaluate the role played by female directors inside the boardroom, following the introduction of the gender quota. By role, we mean the overall importance or influence of a particular individual, its ability to set the tone at the top of large companies. This ability depends at least on three elements: the position held by the person (in terms of committees membership and chairing), her attendance (Adams and Ferreira, 2008, 2009; Masulis and Mobbs, 2014), and, to a lesser extent, what we can call her "function" (vice-chairman, lead independent, etc.).

On average, committees are composed of 3 individuals. Just like in the U.S. or in the U.K., the audit committee, which supervises firm's accounts and annual reports, is the most common one: it has been promoted by the AFEP/MEDEF Code since 1995 and is compulsory by law for listed firms since 2008. Compensation and/or nominating committees are also very common, albeit not compulsory: more than 98% of SBF120 companies have at least one committee dealing with these issues in 2014: for 64% it is a unique structure, for the rest (36%), there are two distinct committees. Those committees are responsible for designing managers' compensation and selecting the CEO and new directors. Both committees are dedicated to the monitoring function, together with the audit committee. In addition, more and more "advising" committees are established inside the boardroom to provide advices and outlooks on firm-specific issues - such as strategy, risk and technology management, corporate social responsibility, nuclear waste management, etc. Those committees are highly heterogeneous across firms. Even if the audit committee is usually described as the most important committee, some firms give more value to the compensation or strategic committee.[8] Moreover, the service or effort required in each committee may be very heterogeneous across firms: in particular, the number of meetings for each committee is highly variable across firms and years.

Information regarding committees is fully disclosed in the annual reports. In contrast with positions, individual attendance is not disclosed by French companies. Functions, like committees, are usually observable, but are highly heterogeneous across firms. At this stage, we therefore face a challenge: how to measure individual roles, when they depend on one unobservable variable (attendance) and on two elements which are quite heterogeneous across companies (positions and functions)? We propose

[8]For example, Dexia, a French and Belgian bank, values the audit committee meeting at 2,000€, more than the compensation-nomination committee (1,500 €). Biomerieux, a pharmaceutical firm, does the opposite (2,500€versus 3,000€).

to use director compensation (fees). Similarly to standard models in labor economics, we assume that remuneration captures the value or the service individuals bring to the organization - except if there is some discrimination. Importantly, the allocation of fees among directors precisely depends on the three elements we want to measure to evaluate individual roles. First, it depends on individual positions (inside the boardroom): the vast majority of firms pay extra fees for committee memberships, and reward differently the participation to different committees. Second, it depends on individual attendance. Only 17% of firms in our sample do not take into account directors' attendance in the fees calculation. Ignoring attendance is in contradiction with the AFEP/MEDEF code of governance, and is decreasing over period, from 26 firms in 2006 to 11 in 2014. Finally, most firms also have additional fees for directors who supply some specific services as recommended by the AFEP/MEDEF code. These specific services could be sitting or chairing in some committees (with sometimes a variable part linked with attendance) or assuring some specific functions such as lead directors or vice-chairman. Accordingly, we contend that director fees are a common metric that can be used to evaluate director roles, within and across firms.

This section first analyzes the variation of director fees within firms in order to identify their determinants. Doing so allows to observe a within firm gender fees gap. We then examine the relative influence of the various gender gap determinants, using the Oaxaca-Blinder decomposition. More precisely, we quantify the part (of the gender gap) due to individual characteristics, the part due to positions, and eventually the part due to pure gender discrimination. A gender fees gap mainly related to individual characteristics would point out issues regarding the pool of female candidates (due to a supply shortage). A gender gap mainly related to positions (controlling for characteristics) rather means that companies do have some discretion in the way they allocate different individuals across positions. It would therefore suggest that firms have so far failed to put female directors in strategic positions - even considering that these new directors have peculiar individual observable characteristics.

4.1 The determinants of director fees

Like in the previous section, the sample comprises 115 distinct firms over the 2006-2014 period. As we are mainly interested in director fees, we now exclude directors who do not directly receive the fees such as executive directors (insiders), some shareholder representatives (State representatives for example) or employee representatives. Also, we exclude chairmen of the board because in many cases, the chairman and the CEO are the same person (50% of firm-year observations) and are not compensated specifically for their job of director. We eliminate directorship corresponding to directors entering or exiting the boardroom in the course of the year, as they are likely to be less involved at the board-level. We drop two firms that pay directors in dollars and follow the SEC regulation (Arcelor Mittal and Stmicroelectronics), and two companies (Alten and SES) that do provide individual information on fees for the whole period. Finally, we trim the director fees at the 1 and 99% levels in order to avoid our estimation being driven by outliers. In the end, we have 7,904 individual-firm-year observations for 111 distinct firms and 1,498 distinct directors over the 2006-2014 period. Table 6 presents the descriptive statistics of the sample.

We make the distinction between three categories of committee: audit, compensation-nomination and advice. Compensation-nomination covers committees related to CEO compensation and nomination

whatever the structure (one or two-tiers). The 'advice' category groups all committees which are not dedicated to monitoring functions. In Table 6, we observe that 38% of the directorships correspond to the audit committee, and 40% to the compensation-nomination committee. For the advise committee, the share is 28%. On average, there are almost 3 committees per board with a strong heterogeneity across firms (from 1 to 6 distinct committees).

There is a large heterogeneity across firms in terms of director fees overall budget, related to the size and the industry (see also Goh and Gupta, 2015). In our data, the first decile of the individual fees distribution is less than 15,000€, the median is around 36,000€and the last decile is higher than 75,000€. Moreover, there is an increasing temporal trend of the mean director fees over the 2006-2014 period (Figure 1, Appendix 6.4). Two main reasons may explain this growth. On the one hand, the number of committees (and then the workload) is growing over the period, from 2.2 to 2.8 committees per firm on average. On the other hand, the number of meetings related to committees' activity is also significantly increasing, from 10 meetings in 2006 to 13 meetings in 2014. Then, over the period, the duties of directors have significantly increased without any relation with the regulation on gender diversity.

The objective of our empirical analysis is to compare director fees within firms in order to identify the impact of individual characteristics and position heterogeneity. In order to overcome the temporal growth in fees and firm heterogeneity, the econometrics baseline model we use is a firm-year fixed effect model. Following the previous literature (Gregory-Smith et al., 2014; Goh and Gupta, 2015), we also introduce a set of individual characteristics (gender, seasoned/unseasoned status, age, nationality, tenure (and square), number of boards, education and expertise) and positions (committees memberships and chairing). The estimated model is then:

$$y_{i,j,t} = \beta X_{i,j,t} + \mu_{j,t} + \epsilon_{i,j,t} \tag{1}$$

Where $y_{i,j,t}$ is the logarithm of fees for director i in a firm j in year t, $X_{i,j,t}$ is a vector of individual characteristics (and eventually positions) and $\mu_{j,t}$ are firm-year fixed effects. The error term is clustered at the firm level.

Without any control, we observe that female directors earn on average 5.6% less than their male counterparts in the same firm (around 2,500€). While director fees distribution criteria are *a priori* independent from gender, women are on average less paid than men (within firm). The subsequent regressions try to better understand this gap.

In the second section, we have discussed the fact that there is a strong heterogeneity across directors in terms of intrinsic attributes and board-related characteristics. This heterogeneity may drive the gross gender fees gap we observe. To check this, we regress the (log)fees on a set of individual attributes (see Table 7, model 1): the seasoned/unseasoned status interacted with gender, the tenure (in log), the independent status, the nationality (foreigner or not), the age, a dummy that takes value 1 if the individual is a busy director, education, financial expertise and industry expertise.

We find that controlling for individual attributes, unseasoned female directors support an average discount in fees of 6.1%, as compared to male seasoned directors. By contrast, we do not observe

Table 6: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Panel A : Directors' characteristics					
Female	7904	0.16	0.37	0	1
Unseasoned	7904	0.12	0.33	0	1
Seasoned Female	7904	0.10	0.3	0	1
Unseasoned Female	7904	0.06	0.24	0	1
Unseasoned Male	7904	0.06	0.23	0	1
Tenure	7904	7.41	6.13	2	64
Independent	7904	0.63	0.48	0	1
Unseasoned independent	7904	0.07	0.26	0	1
Foreigner	7904	0.23	0.42	0	1
Age	7904	60.18	9.66	23	95
Busy director	7904	0.70	1.12	0	7
Grande Ecole Eduction	7904	0.44	0.49	0	1
Financial Expertise	7904	0.60	0.49	0	1
Industry Expertise	7904	0.46	0.5	0	1
Panel B: Position inside the boardroom					
Audit committee	7904	0.38	0.49	0	1
Audit committee chair	7904	0.10	0.3	0	1
Number of Audit meeting	7904	1.95	2.87	0	18
Compensation/Nomination Committees	7904	0.40	0.49	0	1
Compensation/Nomination Committees Chair	7904	0.11	0.31	0	1
Number of Compensation/Nomination Committees meetings	7904	1.8	2.82	0	23
Advice committees	7904	0.28	0.45	0	1
Advice committees Chair	7904	0.04	0.21	0	1
Number of Advice meetings	7904	1.13	2.31	0	23
Panel C: Directors fees					
Directors fees	7904	43389	25304	4500	146400
Director fees ratio	7904	1	0.29	0.08	3.65

Notes: This table provides descriptive statistics at the director-firm-year level. Panel A provides individual characteristics such as gender, unseasoned and interaction, independent status, tenure, age, foreigner, busy director, financial expertise and industry expertise. Definitions are provided in Table 11 (Appendix 6.2). Panel B indicates the positions inside the boardroom. Audit, compensation-nomination and advice committees dummies reflect the committees where the director sits in. The chair dummies are equal to 1 if the director chairs the committee. The number of meetings indicates the annual number of meeting for the related committees. Panel C informs on annual directors fees (and their logarithm). Director fees ratio is the rate of the annual individual director fees relative to the annual firm average director fees.

any significant fees gap for the other groups of directors (seasoned women and unseasoned males). Controlling for individual characteristics, it means that the gender fees gap is mainly supported by unseasoned females. Model 1 also allows to observe that independent directors have a premium of 15% relative to affiliated directors, whereas more experienced individuals, proxied by the age (0.3% by year), are better off than the others. The tenure is also strongly significant: each supplementary year is rewarded by a 1.1% increase in the fees.

We investigate in models 2 and 3 the role of positions in determining individual fees. We introduce a set of dummy variables that take value 1 if the person sits in the different committee and a set of dummy variables if the person chairs respectively the audit committee, the compensation or nomination committee and one of the advice committees. In model 3, we replace the dummy variables by the number of meetings.

In model 2, the audit committee is related with a 28% positive difference, followed by the compensation or nomination committee (21%) and the advice committee (18%). This ranking is consistent with the relative importance given to the different committees in corporate governance debates and codes. The same pattern is observable for chairing each specific committee (with a premium going from 18% to 15%). Interestingly, the value of the coefficients associated with independence, tenure and age (that play the larger role in the previous model) is strongly reduced, indicating that they are important drivers of positions. Independent director is now not significantly different from zero. Busy directors are related with a lower fee, around 1% per extra-board at a 10% significance level: it indicates that busy directors may be less involved in board functioning than other board members. Model 3 replaces the dummy variables for each committee by the number of meetings to be closer to the required effort. The results are largely consistent. Each audit meeting is related to a 5% increase whereas compensation, nomination committees and advice committees are respectively associated with a 3.9 and 3.8% increase.

Table 7: The determinant of director fees

Variables	Log (Directors' fees) (1)	(2)	(3)
Seaoned Female	-0.005	0.012	0.014
	(0.027)	(0.019)	(0.018)
Unseasoned Female	-0.061***	-0.020	-0.007
	(0.022)	(0.019)	(0.019)
Unseasoned Male	-0.022	0.001	0.007
	(0.027)	(0.021)	(0.022)
Tenure	0.011***	0.002	0.003
	(0.004)	(0.003)	(0.003)
Tenure (sqare)	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)
Independent	0.153***	0.028	0.037*
	(0.027)	(0.021)	(0.021)
Foreigner	-0.030	-0.013	-0.019
	(0.026)	(0.019)	(0.020)
Age	0.003**	0.001	0.002**
	(0.001)	(0.001)	(0.001)
Busy Director	-0.004	-0.009*	-0.007
	(0.006)	(0.005)	(0.005)
Grande Ecole Education	0.018	-0.021	-0.023
	(0.021)	(0.015)	(0.016)
Financial Expertise	0.024	-0.003	-0.003
	(0.018)	(0.013)	(0.012)
Industry Expertise	0.002	0.005	0.001
	(0.017)	(0.012)	(0.012)
Audit		0.283***	
		(0.024)	
Audit Chair		0.182***	0.203***
		(0.023)	(0.021)
Compensation/Nomination		0.212***	
		(0.017)	
Compensation/Nomination		0.148***	0.166***
Chair		(0.019)	(0.019)
Advise		0.176***	
		(0.017)	
Advise Chair		0.146***	0.138***
		(0.033)	(0.032)
Audit Meetings			0.049***
			(0.004)
Compensation/Nomination			0.039***
Meetings			(0.003)
Advise Meetings			0.038***
			(0.003)
Constant	10.178***	10.136***	10.130***
	(0.070)	(0.051)	(0.051)

Observations	7,904	7,904	7,904
Nb Firms	113	113	113
R-squared	0.792	0.865	0.866
R2-adj	0.763	0.846	0.847

Notes: (1) The dependent variable is the logarithm of director fees (2) The independent variables are dummy variables representing gender interacted with the seasoned/unseasoned status, tenure, squared tenure, independent (dummy variable), foreigner (dummy variable), age, busy director (number of boards in the SBF120 index for a given director in a given year), dummies for Grande Ecole Education, financial expertise and industry expertise, committees dummy variables (audit, compensation or nomination, advising) which takes 1 if the director sits in (model 2), committees chair variables which take 1 if the director chairs the related committee (models 2-3), and the number of specific committee meetings that the directors should attend during one year (model 3). (3) Models are firm-year fixed effects. (4) Robust standard errors, clustered by firm, in parentheses. (5) Significance level: *** p<0.01, ** p<0.05, * p<0.1

Importantly, there is no significant difference between groups of directors (as defined by the seasoned*gender interaction) when we take into account committees. Put differently, differences in positions mainly explain the conditional (on individual observable characteristics) fees gap we observed for unseasoned female directors (-6.1%, in model 1). Our empirical analysis is therefore indicative of a "'positional"' gender segregation - that echoes the occupational gender segregation commonly observes in the labor market (see Ponthieux and Meurs, 2015): even with similar observable characteristics, women and men do not occupy the same positions / occupations. And because the positions predominantly held by female directors are probably less rewarding than the positions predominantly held by males, positional segregation largely explains the gender fees gap we observe. This also means that the different groups of directors do not exhibit specific attendance problems: otherwise, we would have observed a significant correlation between the different groups (seasoned*gender) and fees even when controlling for positions. This result is then different from the observation made by Adams and Ferreira (2009) who show on US data that female directors have a better attendance record and that there is a peer effect on male directors. Two explanations are possible. First the authors used the 1996-2003 period when the attendance issue was more serious than nowadays. Second, attendance issue is more individual specific than group specific here.

To conclude, female directors support a (within firm) gross fees gap of 5.6% over the whole period. When controlling for individual characteristics, we observe that the fees gap persists for unseasoned female directors (6.1%): for a given status (independence), tenure, etc., these new comers apparently play a secondary role inside boardrooms. We then show that it is largely explained by the positions (in terms of committee membership and chairing), minoring the role of attendance issues. This result is indicative of a second 'inner' glass ceiling supported by unseasoned female directors: while the quota has allowed women to enter French boards, it seems it has not succeeded to prevent a 'positional' gender segregation process inside boards.

4.2 Why do female directors fail to be the new key players?

Frequently used in labor economics, the Oaxaca-Blinder decomposition enables to measure the contribution of various factors to pay differences across groups (Oaxaca and Ransom, 1999; Fortin et al., 2011). In particular, it splits the wage gap into two components: the explained (by observables) part and the unexplained part. The unexplained part is generally considered to measure "pure" discrimination against a given group. The gender wage gap has been extensively examined using this decomposition in order to disentangle discrimination against women from differences in terms of individual characteristics and environment (industry, firm size) (Bertrand and Hallock, 2001; Kahn, 2015). Bertrand and Hallock (2001) show for instance that the gross gender wage gap between female and male top managers is around 45% over the 90's in US of which 75% is explained by firm size and position inside the firm. Female top managers are less likely to reach the most rewarding positions such as CEO, chairman or vice-president. 5% remains unexplained after controlling for age and tenure, suggesting the existence of discrimination.

In our set-up, the explained part provides an estimation of the gender fees gap due to the fact that female and male directors do not have the same observables, here individual or board-related attributes and positions. In contrast, the unexplained part gives an estimation of the differential in return across gender of each observables (as a measure of discrimination), but also an estimation of the effect of unobservable predictors. Regarding director fees, one such unobservable predictor comes in mind: the individual attendance. In sum, the Oaxaca-Blinder decomposition complements the fees equation previously estimated, in providing a precise decomposition of the gender gap into the diverse components we have identified so far (individual attributes, positions, unobservables such as attendance).

Like before, we focus our attention on gender fees gap within firm. To avoid introducing firm-year fixed effect in the Oaxaca-Blinder decomposition (and having some singular matrix in the estimation process), we use as a dependent variable the ratio of individual director fees relative to the annual average firm director fees. It corrects *ex ante* for the heterogeneity across firms (every year) and measures the fraction of the firm-average director fees captured by each individual. The range is extensive, from 8% to 365% depending on the role inside the boardroom. Here, 8% means that the director receives less than 10% of the average individual fees paid in her/his company.

The Oaxaca-Blinder decomposition explains the mean outcome difference between two groups (here male and female) (see Jann, 2008, for further explanation). First, we estimate for each group the model explaining the ratio ($R^G_{i,j,t}$, G=F (female) or M (male)) by the same variables used before: independence and unseasoned/seasoned statuses, individual characteristics (age, tenure and its square, education, industry expertise, financial expertise) and positions (audit, compensation-nomination, advice and chair positions) ($X_{i,j,t}$).

$$R^M_{i,j,t} = \beta_M X^M_{i,j,t} + \epsilon_{i,j,t} \tag{2}$$

$$R^F_{i,j,t} = \beta_F X^F_{i,j,t} + \epsilon_{i,j,t} \tag{3}$$

where $R^M_{i,j,t}$ is the director fees ratio for male or female, $X_{i,j,t}$ is the vector of dependent variables, and $\epsilon_{i,j,t}$ the error term. $E[\epsilon_{i,j,t}] = 0$ by assumption.

Second, the Oaxaca-Blinder approach decomposes the mean outcome difference (D) in two parts: the explained (Q) and the unexplained (U) parts.

$$D = E[R^M_{i,j,t}] - E[R^F_{i,j,t}] = E[X^M_{i,j,t}]'\beta_M - E[X^F_{i,j,t}]'\beta_F = Q + U \tag{4}$$

The Q, or "explained" part, measures the differential due to the group difference in the dependent variables, depending on male coefficients (β_M). Here we assume that if there is discrimination, it is directed towards female directors: this is why the male coefficients are taken as reference for the explained part of the fees gap. Then Q can be written as follow:

$$Q = (E[X^M_{i,j,t}] - E[X^F_{i,j,t}])'\beta_M \tag{5}$$

The U, or "unexplained" part, measures the differential due to all potential effects of unobservable mechanisms such as discrimination but also different returns of observables (difference between male and female coefficients).

$$U = D - Q \tag{6}$$

Table 8 provides the Oaxaca-Blinder decomposition of the director fees ratio by gender over the period. To ease the reading, we split the independent variables in different groups. Two dummies are first isolated, corresponding to the independent and unseasoned statuses. The other individual characteristics (age, tenure, squared tenure, education, industry expertise, financial expertise and busy directors) are grouped together: on the output tables, we therefore report the cumulative effect of all these characteristics. Regarding positions, we adopt the following presentation: Audit groups together the two dummies informing on the audit committee (whether the individual sits in the committee, and whether she/he chairs it): we report the cumulative effect (on the gender fees gap) of these two dummies. Compensation does the same for the compensation/nomination committee, and Advise for the advise committee.

The difference between the predicted man and woman fees is around 5%. It is very close to the gross discount for female directors of 5.6% estimated in our previous log(fees) equation. This difference is divided in 4.4% explained by the predictors and 0.6% unexplained. The unexplained part is insignificant, meaning that there is no pure discrimination (different return of individual characteristics) or no effect of unobservable predictors. It confirms that attendance problem plays a minor role to account for pay differences across gender. Accordingly, it gives credence to our previous (log) fees equation, which are unlikely to suffer from omitted variables bias. Looking at the explained part of the gender gap, we observe the following effects. The fact that on average female directors are more independent than male directors is related to an increase of 0.1% of women fees relative to men fees. In the opposite, the fact that there is a larger share of unseasoned members among women as compared to men tends to increase the gender gap (0.8%). The differences in terms of other individual characteristics between male and female directors are associated with a 1.2% gender fees gap. Within individual characteristics, the two main determinants are tenure and age (with similar fitted coefficient: 0.005, significant at the 1% level). Overall, almost one half of the (explained) gender fees gap is related to the fact that female directors do not have on average the same characteristics or statuses than male directors (1.9% out of 4.4%).

Table 8: Oaxaca-Blinder model explaining fees gap between female and male directors

	All sample			Before Quota			After Quota		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables	Differential	Explained	Unexplained	Differential	Explained	Unexplained	Differential	Explained	Unexplained
Predicted Male wage	1.008***			1.003***			1.013***		
	(0.003)			(0.005)			(0.005)		
Predicted Female Wage	0.958***			0.966***			0.955***		
	(0.007)			(0.015)			(0.008)		
Difference	0.050***	0.044***	0.006	0.037**	0.044***	-0.007	0.057***	0.048***	0.010
	(0.008)	(0.006)	(0.008)	(0.016)	(0.010)	(0.014)	(0.010)	(0.007)	(0.009)
Independent		-0.001**	0.009		0.002*	-0.024		-0.001	0.018
		(0.000)	(0.012)		(0.001)	(0.023)		(0.001)	(0.014)
Unseasoned		0.008***	0.012**		0.000	0.000		0.007*	0.020**
		(0.003)	(0.005)		(0.000)	(0.000)		(0.004)	(0.009)
Individual characteristics		0.012***	0.110**		0.006	0.052		0.009**	0.110**
		(0.002)	(0.046)		(0.004)	(0.103)		(0.004)	(0.053)
Audit		0.017***	0.012*		0.026***	0.007		0.018***	0.007
		(0.004)	(0.006)		(0.008)	(0.013)		(0.005)	(0.007)
Compensation/ Nomination		0.008***	-0.008		0.003	-0.008		0.014***	-0.002
		(0.003)	(0.005)		(0.005)	(0.011)		(0.004)	(0.007)
Advise		-0.000	0.011***		0.008***	0.005		0.001	0.013**
		(0.002)	(0.004)		(0.002)	(0.006)		(0.002)	(0.005)
Constant			-0.141***			-0.039			-0.156***
			(0.047)			(0.098)			(0.058)
Observations	7,904	7,904	7,904	3,345	3,345	3,345	4,559	4,559	4,559
Nb Firm-years	958	958	958	414	414	414	544	544	544

Notes: Oaxaca-Blinder twofold decomposition. (1) The dependent variable is the rate of directors fees relative to the annual average firm directors' fees. (2) The independent variables are: independent and seasoned/unseasoned statuses. Individual characteristics include age, tenure and its square, industry expertise (dummy), financial expertise (dummy), Grande Ecole Education (dummy) and busy directors (number of other boards). The position covers the membership to audit, compensation-nomination or advice committees and the chair positions. (3) The reference regression is the one driven on male observation (4) Sample: the first oaxaca decomposition is done on all observation (Columns 1-3), the second is restricted to observations before the application of the gender quota (Columns 4-6), the third is restricted to observations over the application of the gender quota (Columns 7-9). (5) Standard errors are clustered at the firm level. (6) Significance level: *** p<0.01, ** p<0.05, * p<0.1

The differences in positions are responsible for more than one half of the gender fees gap, driven by differences regarding the access to the audit committee (1.7%) and, to a lesser extent, the nomination-compensation committee (0.8%). The access to the monitoring committees seems therefore to be responsible for the main part of the gender fees gap. It supports the idea of the existence of an inner glass ceiling for female directors within French boards.

Restricting the sample to the years preceding the quotas (i.e. with only seasoned directors) shows that the gender fees gap was significant, albeit less important (3.7%). Once again, the unexplained part is non significant. Regarding the explained part, we observe that individual characteristics do not play a significant role in the gender fees penalty: it indicates that seasoned women, who succeeded in breaking the glass ceiling in the dark age, present a bundle of characteristics that made them play a rather similar role than men. There is in particular no significant difference between seasoned men and seasoned women regarding tenure (see Table 2), and the differences in nationality and financial expertise are almost non-significant (see Table 4, Difference (t-test) (3)-(4)). Positions tell a different story: they explained much of the gender gap. In particular, the access to the audit committee is associated with a 2.6% gender gap, while the access to the advise committee is related to a 0.8% penalty for women.

Looking at the years following the quota (2010-2014), our decomposition reports an increase in the gender fees gap, that reaches 5.7%. The unexplained part is non-significant. The explained part is due for one third to individual characteristics, and for two thirds to positions: once again, the audit committee explains an important part of the difference in pay between men and women. But the access to the remuneration/nomination committee becomes significant, while it did not play as a penalty factor in the pre-quota era. We therefore observe that the within-firm segregation process has slightly changed over time: it now concerns all monitoring committees (audit, and nomination/remuneration), while advise committee membership is no more a problem for women.

Table 9 presents the Oaxaca-Blinder decomposition for the sample of observations related to seasoned directors. The objective is to evaluate whether the quota has had any impact on female directors who had already broken the glass-ceiling before the quota. In the pre-quota era, the gender gap was around 3.7%, lower than on the full sample (over the full period). As mentioned before, we have observed that this gap was mainly due to difficulties to access the audit committee and the advise committee. After the quota, the gender gap has decreased up to 2.3%, but the explained part is still significant, at 2.7% (even if the global gender gap is no longer significant). The regulation seems to have had a positive effects on seasoned women, but the effects are quite slow: gender inequality within board is still observable for at least audit committee, even for seasoned women.

Table 9: Oaxaca-Blinder model explaining gender fees gap among seasoned directors

	All sample			Before Quota			After Quota		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables	Differential	Explained	Unexplained	Differential	Explained	Unexplained	Differential	Explained	Unexplained
Predicted Male wage	1.014***			1.003***			1.024***		
	(0.004)			(0.005)			(0.005)		
Predicted Female Wage	0.988***			0.966***			1.001***		
	(0.010)			(0.015)			(0.014)		
Difference	0.026**	0.030***	-0.004	0.037**	0.044***	-0.007	0.023	0.027***	-0.004
	(0.011)	(0.006)	(0.009)	(0.016)	(0.010)	(0.014)	(0.015)	(0.009)	(0.012)
Independent		0.000	0.019		0.002*	-0.024		-0.000	0.041*
		(0.000)	(0.017)		(0.001)	(0.023)		(0.000)	(0.024)
Individual characteristics		0.007***	0.101		0.006	0.052		0.005*	0.123
		(0.002)	(0.063)		(0.004)	(0.103)		(0.003)	(0.079)
Audit		0.019***	0.008		0.026***	0.007		0.018***	0.003
		(0.005)	(0.008)		(0.008)	(0.013)		(0.007)	(0.010)
Compensation/ Nomination		-0.000	-0.018**		0.003	-0.008		0.000	-0.019*
		(0.003)	(0.008)		(0.005)	(0.011)		(0.005)	(0.011)
Advise		0.004**	0.010*		0.008***	0.005		0.004	0.008
		(0.002)	(0.005)		(0.002)	(0.006)		(0.002)	(0.007)
Constant			-0.125**			-0.039			-0.160**
			(0.061)			(0.098)			(0.079)
Observations	6,980	6,980	6,980	3,345	3,345	3,345	3,635	3,635	3,635
Nb Firm-years	955	955	955	414	414	414	541	541	541

Notes: Oaxaca-Blinder twofold decomposition. (1) The dependent variable is the rate of director fees relative to the annual average firm director's fees. (2) The independent variables are: independent and unseasoned statuses. Individual characteristics covers age, tenure and its square, industry expertise (dummy), financial expertise (dummy), Grande Ecole Education (dummy) and Busy directors (number of other boards). The position covers the membership to audit, compensation-nomination or advice committees and the chair positions. (3) The reference regression is the one driven on male observations (4) Sample: The sample is restricted to the seasoned directors. The first Oaxaca-Blinder decomposition is done on all observation (Columns 1-3), the second is restricted to observations before the application of the gender quota (Columns 4-6), the third is restricted to observations over the application of the gender quota (Columns 7-9). (5) Standard errors are clustered at the firm level. (6) Significance level: *** p<0.01, ** p<0.05, * p<0.1

As a conclusion, the within-firm gender fees gap analysis suggests that female directors ultimately have a smaller role inside the boardroom, as compared to male directors. Before the quota, female directors experienced a gender fees gap of 3.7%, mainly explained by the difficulties to enter audit and advice committees. On average, after the quota, we observe a gender gap of 5.7%. For the seasoned female directors, the gap has decreased but is still persistent (2.3%): while the access to advise committee is no more a problem, the access to the audit committee continues to negatively affect women influence within boards. For the unseasoned female directors, the gender gap is larger and mainly driven by the lack of monitoring committees' memberships and individual characteristics. While we do not have evidence of pure discrimination, our results indicate that despite the quota, women are still not key players inside French boards. In particular, they face an inner glass ceiling to reach monitoring committees - that however would be the most appropriate given their propensity to be independent.

5 Conclusion

Gender diversity in the boardroom has come to the front of the public debate, when the EU adopted in 2014 a Directive promoting a target of 40% of female directors by 2020. While several countries have enacted gender quota, the efficiency of a regulatory approach is under strong scrutiny. All studies so far have examined the Norwegian case (with the exception of Sabatier (2015)); this paper provides new evidence based on the French quota. We investigate the way large listed companies have coped with the regulation: who have they appointed? To do what? We contend that answering these questions is a prerequisite to assess the overall efficiency of a quota in terms of corporate governance. In particular, it circumvents the difficulties inherent with a direct estimation of the relationship between board diversity and firm performance (problem of causal inference, first compliers, changing board structures, etc.).

We report evidence that compliance with the law has been mainly driven by the appointment of new, unseasoned female directors, rather than by the use of seasoned females. Multi-directorships for female board members has not dramatically increased following the quota. Crucially, we show that the pool of unseasoned female directors presents specific characteristics, due for a part to a supply shortage: they are, in particular, younger and more independent than male directors and seasoned women, and the share of foreigners is more important than in any other groups of directors. In addition, they have less financial literacy than seasoned directors.

We then show that female directors support a within-firm gross fees gap of roughly 5%. One half of the gap is explained by positions (committee memberships and chairing) and the other half by individual attributes (age and tenure). While we do not report evidence of pure discrimination against women in French boards, we rather observe a process of "positional" gender segregation, with female directors, both seasoned and unseasoned, somehow confined to advising committees, less strategic and less rewarding than monitoring committees. Importantly, this segregation is driven not only by differences in observable attributes characterizing unseasoned female directors but also by discretionary choices made by companies not to promote female directors as key players. The quota has been unable until now to bridge the gender gap within boardrooms.

Indubitably, the gender quota has had a positive effect by opening the doors of the boardroom to new women. However, the latter still face an inner glass ceiling to reach monitoring committees. It could be a temporary issue if seasoned directors keep the positions they had before the regulation until they leave the board or if firms decide to replace first male cheerleaders (directors without any committee) by female directors. In addition, tenure of unseasoned directors is mechanically bound to increase. The overall effect of the gender quota should then be analyzed after a few years, especially in light of the next 40% threshold in 2017. The pool of potential candidates should indeed grow up and offer new profiles. Anyhow, in the short run, our results indicate that it is dubious to observe major improvements in corporate governance quality following the implementation of the gender quota.

From the policy maker perspective, the quota has been successful insofar as new women, and not only seasoned female directors, have been appointed in French boards. It first opens new career perspectives for talented women and could have some positive externalities on the likelihood to become CEO (Oakley, 2000; Wang and Kelan, 2013; Mohan, 2014). However, the frictions in the short term within the corporate governance system, due to the fast compliance of firms to the law, have to disappear in the next years. In particular, the access of female directors to the audit or compensation-nomination committees, major organs in the decision-making process at the top of the firm, should be a specific concern for politicians, practitioners and academics.

From a research perspective, several questions remain to be investigated on the French case. First, our research did not evaluate how firms' outputs have changed after the law, in terms of innovation (Miller and Del Carmen Triana, 2009), risk management or strategy (Francoeur et al., 2008). Also, women may be more able to take into account the demands of strategic stakeholders in the decision-making process such as employees, customers or suppliers through Corporate Social Responsibility policy (CSR). Post et al. (2011) and Harjoto et al. (2014) show for example that gender diversity is positively correlated with CSR performance. There is finally one major issue we do not deal with in this paper: the impact of the quota on gender equality on the labor market and within workplaces, through top-down effects. The most recent empirical results on the Norwegian case do not confirm the presence of such top-down effects (Bertrand et al., 2014). In the French case, we lack for the moment reliable evidence.

Second, there is an internationalization of directors. To our knowledge, this phenomenon has not been highlighted in the Norwegian case. Further research is needed to understand why these directors decide to enter the French market, what their incentives (reputation, career) are and which positions they hold in their home countries. Is this internationalization always related to improvements in corporate governance quality or to a need for French firms to expend their activities abroad by merger and acquisitions for example? Masulis et al. (2012) provide mixed effects of foreign directors on corporate governance in U.S. companies.

Third, firms did not seem to face difficulties to comply with the gender quota. Nevertheless, voluntary approach (i.e. comply or explain) was unsuccessful before the law, with a low and stagnant fraction of female directors in large French listed companies. The European Commission has recently given a clear objective to EU member States but with flexible methods. It would therefore be interesting to compare the effectiveness of voluntary and legislative approaches across European countries.

References

Adams, R. B., de Haan, J., Terjesen, S., and van Ees, H. (2015). Board Diversity: Moving the Field Forward. *Corporate Governance: An International Review*, 23(2):77–82.

Adams, R. B. and Ferreira, D. (2007). A Theory of Friendly Boards. *The Journal of Finance*, 62(1):217–250.

Adams, R. B. and Ferreira, D. (2008). Do Directors Perform for Pay? *Journal of Accounting and Economics*, 46(1):154–171.

Adams, R. B. and Ferreira, D. (2009). Women in the Boardroom and their Impact on Governance and Performance. *Journal of Financial Economics*, 94(2):291–309.

Adams, R. B. and Funk, P. (2012). Beyond the Glass Ceiling: Does Gender Matter? *Management Science*, 58(2):219–235.

Adams, R. B., Gray, S., and Nowland, J. (2011). Does Gender Matter in the Boardroom? Evidence from the Market Reaction to Mandatory New Director Announcements. *SSRN Scholarly Paper*.

Adams, R. B., Hermalin, B. E., and Weisbach, M. S. (2010). The Role of Boards of Directors in Corporate Governance: A Conceptual Framework and Survey. *Journal of Economic Literature*, 48(1):58–107.

Adams, R. B. and Kirchmaier, T. (2015). Barriers to Boardrooms. *SSRN Scholarly Paper*.

Ahern, K. R. and Dittmar, A. K. (2012). The Changing of the Boards: The Impact on Firm Valuation of Mandated Female Board Representation. *The Quarterly Journal of Economics*, 127(1):137–197.

Allemand, I. and Brullebaut, B. (2014). Le Capital Humain des Femmes Recemment Nommees dans les Conseils d Administration des Societes Francaises Cotees a Paris. *Management international*, 18(3):20.

Ararat, M., Aksu, M., and Tansel Cetin, A. (2015). How Board Diversity Affects Firm Performance in Emerging Markets: Evidence on Channels in Controlled Firms. *Corporate Governance: An International Review*, 23(2):83–103.

Baldenius, T., Melumad, N., and Meng, X. (2014). Board Composition and CEO Power. *Journal of Financial Economics*, 112(1):53–68.

Bauer, M. and Bertin-Mourot, B. (1995). La Tyrannie du Diplome Initial et la Circulation des Elites: la Stabilite du Modele Francais. *Paris:La Decouverte*, pages 48–63.

Becker, G. (1957). *The Economics of Discrimination*. The University of Chicago Press Books.

Bertrand, M., Black, S. E., Jensen, S., and Lleras-Muney, A. (2014). Breaking the Glass Ceiling? The Effect of Board Quotas on Female Labor Market Outcomes in Norway. *Working Paper*.

Bertrand, M. and Hallock, K. F. (2001). The Gender Gap in Top Corporate Jobs. *Industrial & Labor Relations Review*, 55(1):3–21.

Bhagat, S. and Black, B. (2001). The Non-Correlation between Board Independence and Long-Term Firm Performance. *Journal of Corporation Law*, 27(2):231–242.

Bohren, O. and Staubo, S. (2014). Does Mandatory Gender Balance Work? Changing Organizational Form to Avoid Board Upheaval. *Journal of Corporate Finance*, 28:152–168.

Bohren, O. and Staubo, S. (2015). Mandatory Gender Balance and Board Independence. *European Financial Management*, Forthcoming.

Brick, I. E., Palmon, O., and Wald, J. K. (2006). CEO Compensation, Director Compensation, and Firm Performance: Evidence of Cronyism? *Journal of Corporate Finance*, 12(3):403–423.

Burak Guner, A., Malmendier, U., and Tate, G. (2008). Financial Expertise of Directors. *Journal of Financial Economics*, 88(2):323–354.

Carter, D. A., Simkins, B. J., and Simpson, W. G. (2003). Corporate Governance, Board Diversity, and Firm Value. *Financial Review*, 38(1):33–53.

Cashman, G. D., Gillan, S. L., and Jun, C. (2012). Going Overboard? On Busy Directors and Firm Value. *Journal of Banking & Finance*, 36(12):3248–3259.

Chauvel, L. (2004). Vers l'Egalite de Genre : les Tendances Generationnelles sont-elles Irreversibles? *Revue de l'OFCE*, 90(3):69–84.

Dang, R., Bender, and Scotto (2014). Women On French Corporate Board Of Directors: How Do They Differ From Their Male Counterparts? *Journal of Applied Business Research*, 30(2):489–508.

Dass, N., Kini, O., Nanda, V., Onal, B., and Wang, J. (2014). Board Expertise: Do Directors from Related Industries Help Bridge the Information Gap? *Review of Financial Studies*, 27(5):1533–1592.

Defond, M. L., Hann, R. N., and Hu, X. (2005). Does the Market Value Financial Expertise on Audit Committees of Boards of Directors? *Journal of Accounting Research*, 43(2):153–193.

Falato, A., Kadyrzhanova, D., and Lel, U. (2014). Distracted directors: Does Board Busyness Hurt Shareholder Value? *Journal of Financial Economics*, 113(3):404–426.

Faleye, O., Hoitash, R., and Hoitash, U. (2011). The Costs of Intense Board Monitoring. *Journal of Financial Economics*, 101(1):160–181.

Faleye, O., Hoitash, R., and Hoitash, U. (2013). Advisory Directors. *SSRN Scholarly Paper*.

Ferreira, D. (2010). Board Diversity. In *Corporate Governance: a Synthesis of Theory, Research and Practice*, volume 16.

Ferreira, D. (2015). Board Diversity: Should We Trust Research to Inform Policy? *Corporate Governance: An International Review*, 23(2):108–111.

Fich, E. M. and Shivdasani, A. (2006). Are Busy Boards Effective Monitors? *The Journal of Finance*, 61(2):689–724.

Fortin, N., Lemieux, T., and Firpo, S. (2011). Decomposition Methods in Economics. In Card, O. A. a. D., editor, *Handbook of Labor Economics*, volume 4, Part A, pages 1–102. Elsevier.

Francoeur, C., Labelle, R., and Sinclair-Desgagne, B. (2008). Gender Diversity in Corporate Governance and Top Management. *Journal of Business Ethics*, 81(1):83–95.

Frank, K. A. and Yasumoto, J. Y. (1998). Linking Action to Social Structure within a System: Social Capital within and between Subgroups. *American Journal of Sociology*, 104(3):642–686.

Goh, L. and Gupta, A. (2015). Remuneration of Non-Executive directors: Evidence from the UK. *The British Accounting Review*, forthcoming.

Gregory-Smith, I., Main, B. G., and O'Reilly, C. A. (2014). Appointments, Pay and Performance in UK Boardrooms by Gender. *The Economic Journal*, 124(574):109–128.

Harjoto, M., Laksmana, I., and Lee, R. (2014). Board Diversity and Corporate Social Responsibility. *Journal of Business Ethics*, forthcoming:1–29.

Hermalin, B. E. and Weisbach, M. S. (1998). Endogenously Chosen Boards of Directors and Their Monitoring of the CEO. *The American Economic Review*, 88(1):96–118.

Hillman, A. J. (2015). Board Diversity: Beginning to Unpeel the Onion. *Corporate Governance: An International Review*, 23(2):104–107.

Hillman, A. J., Cannella, A. A., and Harris, I. C. (2002). Women and Racial Minorities in the Boardroom: How Do Directors Differ? *Journal of Management*, 28(6):747–763.

Jann, B. (2008). The Blinder-Oaxaca Decomposition for Linear Regression Models. *The Stata Journal*, 8(4):453–479.

Jensen, M. C. and Meckling, W. H. (1976). Theory of the firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3(4):305–360.

Jiraporn, P., Singh, M., and Lee, C. I. (2009). Ineffective Corporate Governance: Director Busyness and Board Committee Memberships. *Journal of Banking & Finance*, 33(5):819–828.

Kadushin, C. (1995). Friendship Among the French Financial Elite. *American Sociological Review*, 60(2):202–221.

Kahn, L. M. (2015). Wage Compression and the Gender Pay Gap. *IZA World of Labor*, pages 1–10.

Kramarz, F. and Thesmar, D. (2013). Social Networks in the Boardroom. *Journal of the European Economic Association*, 11(4):780–807.

Linn, S. and Park, D. (2005). Outside Director Compensation Policy and the Investment Opportunity Set. *Journal of Corporate Finance*, 11(4):680–715.

Mallin, C., Melis, A., and Gaia, S. (2015). The Remuneration of Independent Directors in the UK and Italy: An Empirical Analysis Based on Agency Theory. *International Business Review*, 24(2):175–186.

Masulis, R. W. and Mobbs, S. (2014). Independent Director Incentives: Where do Talented Directors Spend their Limited Time and Energy? *Journal of Financial Economics*, 111(2):406–429.

Masulis, R. W., Wang, C., and Xie, F. (2012). Globalizing the Boardroom:The effects of Foreign Directors on Corporate Governance and Firm Performance. *Journal of Accounting and Economics*, 53(3):527–554.

Matsa, D. A. and Miller, A. (2013). A Female Style in Corporate Leadership? Evidence from Quotas. *American Economic Journal: Applied Economics*, 5(3):136–69.

Miller, T. and Del Carmen Triana, M. (2009). Demographic Diversity in the Boardroom: Mediators of the Board Diversity - Firm Performance Relationship. *Journal of Management Studies*, 46(5):755–786.

Mohan, N. (2014). A Review of the Gender Effect on Pay, Corporate Performance and Entry into Top Management. *International Review of Economics & Finance*, 34:41–51.

Nguyen, B. D. (2012). Does the Rolodex Matter? Corporate Elite's Small World and the Effectiveness of Boards of Directors. *Management Science*, 58(2):236–252.

Nielsen, S. and Huse, M. (2010). The Contribution of Women on Boards of Directors: Going beyond the Surface. *Corporate Governance: An International Review*, 18(2):136–148.

Nygaard, K. (2011). Forced Board Changes: Evidence from Norway. *SSRN Scholarly Paper*.

Oakley, J. G. (2000). Gender-based Barriers to Senior Management Positions: Understanding the Scarcity of Female CEOs. *Journal of Business Ethics*, 27(4):321–334.

Oaxaca, R. L. and Ransom, M. R. (1999). Identification in Detailed Wage Decompositions. *Review of Economics and Statistics*, 81(1):154–157.

Ponthieux, S. and Meurs, D. (2015). Gender Inequality. In *Habdbook of Income Distribution*, volume 2A. Elsevier.

Post, C., Rahman, N., and Rubow, E. (2011). Green Governance: Boards of Directors' Composition and Environmental Corporate Social Responsibility. *Business&Society*, 50(1):189–223.

Pucheta-Martinez, M. C. and Bel-Oms, I. (2015). The Gender Gap in Pay in Company Boards. *Industrial and Corporate Change*, 24(2):467–510.

Reeb, D. and Upadhyay, A. (2010). Subordinate Board Structures. *Journal of Corporate Finance*, 16(4):469 – 486.

Reeb, D. M. and Zhao, W. (2013). Director Capital and Corporate Disclosure Quality. *Journal of Accounting and Public Policy*, 32(4):191–212.

Rosenblum, D. and Roithmayr, D. (2015). More than a Woman: Insights into Corporate Governance after the French Sex Quota. *Industrial Law Review*, 48:889–1089.

Ryan, H. E. and Wiggins, R. A. (2004). Who is in Whose Pocket? Director Compensation, Board Independence, and Barriers to Effective Monitoring. *Journal of Financial Economics*, 73(3):497–524.

Sabatier, M. (2015). A Women's Boom in the Boardroom: Effects on Performance? *Applied Economics*, 47(26):2717–2727.

Salancik, G. R. and Pfeffer, J. (1978). *The External Control of Organizations: a Resource Dependence Perspective*. Harper and Row.

Seierstad, C. and Opsahl, T. (2011). For the Few not the Many? The Effects of Affirmative Action on Presence, Prominence, and Social Capital of Women Directors in Norway. *Scandinavian Journal of Management*, 27(1):44–54.

Singh, V., Terjesen, S., and Vinnicombe, S. (2008). Newly Appointed Directors in the Boardroom: How do Women and Men Differ? *European Management Journal*, 26(1):48–58.

Smith, N. (2014). Gender Quotas on Boards of Directors. *IZA World of Labor*.

Terjesen, S., Aguilera, R. V., and Lorenz, R. (2015). Legislating a Woman's Seat on the Board: Institutional Factors Driving Gender Quotas for Boards of Directors. *Journal of Business Ethics*, 128(2):233–251.

Terjesen, S., Sealy, R., and Singh, V. (2009). Women Directors on Corporate Boards: A Review and Research Agenda. *Corporate Governance: An International Review*, 17(3):320–337.

Wang, M. and Kelan, E. (2013). The Gender Quota and Female Leadership: Effects of the Norwegian Gender Quota on Board Chairs and CEOs. *Journal of Business Ethics*, 117(3):449–466.

Wearing, C. A. and Wearing, B. (2004). Between Glass Ceilings: Female Non-Executive Directors in UK Quoted Companies. *International Journal of Disclosure and Governance*, 1(4):355–371.

6 Appendix

6.1 Gender policy in Europe

Table 10: The share of female directors in European Union member States and country policy

	Date of decisions	**Date of implementation**	**Target**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**
European Union	**2014**	**2020**	**40**	20	18	16	14	12	11	11	10	10
			Code of Corporate Governance									
Finland	2010	No	No	29	30	29	26	26	24	20	18	20
Sweden	2010	No	Firm level	28	26	26	25	26	27	27	24	24
Denmark	2010	2013	Firm level	24	23	21	16	18	18	17	15	12
United Kingdom	2012	2015	25	24	21	19	16	13	12	12	12	12
Austria	2012	2018	35	17	13	12	11	9	7	6	5	6
Poland	2010	2015	30	15	12	12	12	12	10	10	12	9
Luxembourg	2009	No	Firm level	12	11	10	6	4	3	3	3	1
Ireland	2012	2015	25	11	11	9	9	8	8	7	6	5
			Quota									
Norway	2003	2008	40	38	42	44	41	39	42	43	34	35
France	2011	2014/2017	20/40	32	30	25	22	12	10	9	9	8
The Netherlands	2011	2016	30	25	25	22	18	15	15	14	14	8
Germany	2013	2016	30	24	21	18	15	13	13	13	11	11
Italy	2011	N.D.	33	24	15	11	6	5	4	4	3	4
Belgium	2011	2018	33	22	17	13	11	10	8	7	6	6
Spain	2007	2015	40	17	15	12	11	10	10	8	6	4

	Date of decisions	Date of implementation	Target	2014	2013	2012	2011	2010	2009	2008	2007	2006
No specific policy												
Latvia				32	29	28	27	23	17	16	17	21
Slovenia				20	22	19	14	10	10	18	14	19
Bulgaria				18	17	12	15	11	17	12	15	17
Slovakia				18	24	14	15	22	18	18	24	10
Lithuania				17	16	18	14	13	15	16	18	16
Hungary				12	11	7	5	14	13	16	11	12
Romania				11	8	12	10	21	12	12	18	13
Cyprus				9	7	8	5	4	3	3	2	6
Greece				9	8	8	6	6	5	6	11	8
Portugal				9	9	7	6	5	4	3	3	7
Estonia				7	7	8	7	7	6	8	10	13
Czech Republic				4	11	16	16	12	13	13	11	8
Malta				3	2	4	2	2	4	4	4	4

Notes: (1) Table 10 indicates the share of female directors in the largest firms in the European Union member States. Largest firms are defined by market capitalization and market trade. (2) Date of decision indicates the year of adoption of a specific policy on gender diversity. Year of implementation indicates the date when the decision was made fully enforceable. Target informs on the minimum fraction of female directors required by the code or the quota. (3) The historical record of the share of female directors in each country is provided in the columns 2014-2006. Sources: Eurostat, European Commission Project Women in the decision-making

6.2 Variables

Table 11: Definition of variables

Variables	Definition
Panel A : Directors' characteristics	
Female	Dummy equal to 1 if the director is a woman
Unseasoned	Dummy equal to 1 if the director got her first seat in the SBF120 after the quota
Seasoned Female	Dummy equal to 1 if the female director got her first seat in the SBF120 before the quota
Unseasoned Female	Dummy equal to 1 if the female director got her first seat in the SBF120 after the quota
Unseasoned Male	Dummy equal to 1 if the male director got his first seat in the SBF120 after the quota
Tenure	Number of years the director has been sitting in the boardroom
Independent	Dummy equal to 1 if the director complies with the AFEP/MEDEF definition (Corporate Governance code) of independence
Foreigner	Dummy equal to 1 if the director is not French
Age	Director age in years
Busy Director	Number of seats that the director has a given year in the SBF120
Financial Expertise	Dummy equal to 1 if the director has a professional experience in finance
Industry Expertise	Dummy equal to 1 if the director has a professional experience in the same industry than the firm where she/he sits
Ecole Polytechnique	Dummy equal to 1 if the director is graduated from the Ecole Polytechnique
ENA	Dummy equal to 1 if the director is graduated from the Ecole Nationale d'Administration
HEC-ESSEC-ESCP	Dummy equal to 1 if the director is graduated from HEC, ESSEC or ESCP
IEP	Dummy equal to 1 if the director is graduated from the Institut d'Etudes Politiques
Grande Ecole Education	Dummy equal to 1 if the director is graduated from either Ecole Polytechnique, ENA, HEC-ESSEC-ESCP or IEP

Variables	Definition
Panel B: Role inside the boardroom	
Number of Committees	Number of committees where the director sits
Number of Committees Chairs	Number of committees that the director chairs
Number of meetings	Number of committee meetings
Audit committee	Dummy equal to 1 if the director sits in the audit committee
Audit committee chair	Dummy equal to 1 if the director chairs the audit committee
Number of Audit meeting	Number of audit meetings that the director shall attend
Compensation/Nomination Committees	Dummy equal to 1 if the director sits in the compensation and/or nomination and/or corporate governance committees
Compensation/Nomination Committees Chair	Dummy equal to 1 if the director chairs the compensation and/or nomination and/or corporate governance committee
Number of Compensation/Nomination Committees meetings	Number of compensation and/or nomination and/or corporate governance meetings that the director shall attend
Advising committees	Dummy equal to 1 if the director sits in the advising committee
Advising committees Chair	Dummy equal to 1 if the director chairs the advising committee
Number of Advising meetings	Number of advising meetings that the director shall attend
Panel C: Directors fees	
Director fees	Annual amount in nominal euros paid to an individual acting as a director
Log(Director fees)	Logarithm of director fees
Directors fees ratio	Rate of individual director fees with respect to firm average directors' fees

6.3 The French elite network

The sociological literature on business elites in France commonly highlights two main networks: engineers and (former) high civil servants (see Kadushin, 1995; Bauer and Bertin-Mourot, 1995; Frank and Yasumoto, 1998). These networks are connected to Grandes Ecoles system. In France, after high school, students may choose to go to classic university system for either a bachelor or a master degree, or to apply for Grandes Ecoles program. In the first case, there is no selection of students and only a minimal grade is required to pass the exams. In the second case, students are selected based on their grades after high school and during the program (after 2 and 5 years) in order to have access to the best and most well-known schools in France. The "Grandes Ecoles" system is divided in three groups: engineer schools, business schools and political science schools (Instituts d´ Etudes Politiques). The Ecole Nationale d´ Administration (ENA, political science school) and the Ecole Polytechnique (Engineer School) are the most prestigious and give access to high level civil servant positions at least for the best students. The ENA is a training school for high civil servants in economics, political science, accountability and finance. All students have a master of arts or sciences, before entering ENA thanks to a very selective competitive exam. After graduation, all students have to take a high-level civil servant position and then belong to the "Grand corps de l´ Etat" (Kadushin, 1995). Ecole Polytechnique is the most well-known engineer school with a very selective entry competitive exam. The most talented ones are able to get a high-civil servant positions (scientific Grand corps de l´ Etat) and the

others join the private sector. All students are fast tracked to high level positions in government, state and private sectors. Both schools lead to prestigious bureaucratic career such as cabinet advisor, head of ministries, government position or top management of private and state owned companies. 20% of French largest listed firms are managed by Ecole Polytechnique or ENA graduates over the 1992-2003 period (Kramarz and Thesmar, 2013). Two complementary networks might be pinpointed: the first is forms by the three top French business schools (HEC, ESSEC and ESCP) and the second by political science schools (IEP). As shown by Nguyen (2012), between 1992 and 2001, 61% of the SBF120 CEOs are graduated from a Top Grande Ecole previously mentioned (29% from Ecole Polytechnique and 21% from ENA).

6.4 Trend in director fees over the 2006-2014 period

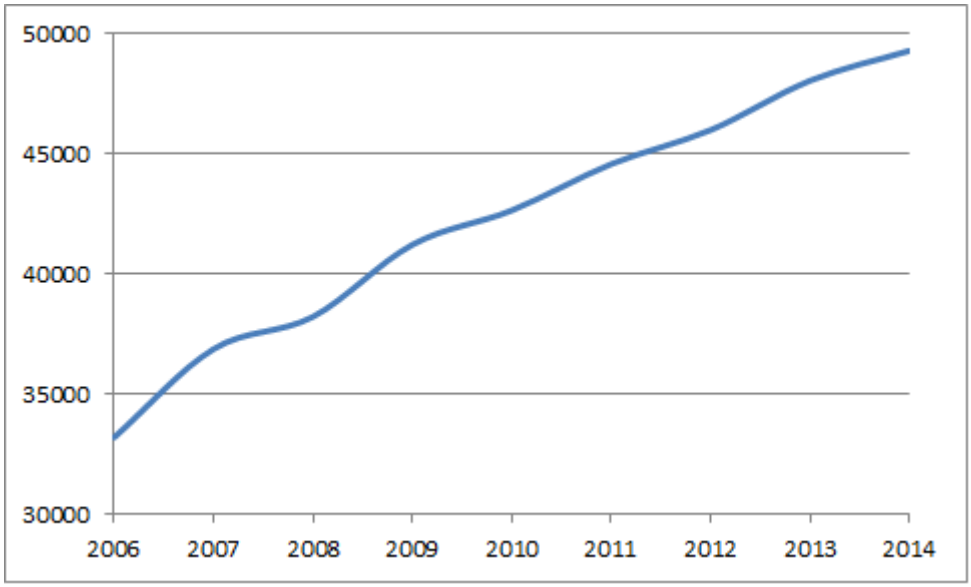

Figure 1: Average director fees (Nominal €), 2006-2014

Notes: This figure presents the firm average director fees over the 2006-2014 period. We exclude directors who do not directly receive the fees such as executive directors (insiders), some shareholder representatives (State representatives for example) or employee representatives. Also, we exclude chairmen of the board because in many cases, the chairman and the CEO are the same person (50% of firm-year observations) and are not compensated specifically for their job of director. We eliminate directorship corresponding to directors entering or exiting the boardroom in the course of the year, as they are likely to be less involved at the board-level. We drop two firms that pay directors in dollars and follow the SEC regulation (Arcelor Mittal and Stmicroelectronics), and two companies (Alten and SES) that do provide individual information on fees for the whole period. Finally, we trim the director fees at the 1 and 99% levels in order to avoid our estimation being driven by outliers. The sample includes 111 firms.